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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/701,537

11/05/2003

Purva R. Rajkotia

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT

PAPER NUMBER

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/701,537

Applicant(s)

RAJKOTIA ET AL.

Examiner

Stephen M. D'Agosta

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,9,11,12,17,19,20 and 23 is/are rejected.
- 7) ☒ Claim(s) 2,5-8,10,13-16,18,21,22 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 9, 11-12, 17, 19-20 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Kinnavy US 2003/0114156 and further in view of Mansfield, Sonti et al. US 6,859,440 and Phillips et al. US 6,580,725.

As per **claims 1, 9, 17 and 23**, Kinnavy teaches a wireless network base station capable of controlling the use of the reduced slot cycle mode by mobile stations communicating with said base station (figure 4 shows the mobile receiving control information for slot cycle), said base station comprising:

a reduced slot cycle controller capable determining whether use of said reduced slot cycle mode is to be used (figure 4 shows the system, eg. controller, adjusting the slot cycle to a preferred slot cycle in response to a generic trigger event. Also see Para #11);

but is silent on

a traffic monitor capable of monitoring message traffic levels handled by said base station; and

the controller capable of receiving traffic statistics information from said traffic monitor and determining whether use of said reduced slot cycle mode by said mobile stations communicating with said base station interferes with scheduling of paging message transmissions by said base station.

Mansfield teaches a flexible protocol whereby resources are modified based on the paging traffic:

A system and method including a flexible paging protocol which adjusts the allocation of resources for paging in response to the amount of actual paging traffic, by increasing resources for paging when paging traffic is heavy and decreasing them when paging traffic is light. A base station transmits a paging packet message over a paging broadcast channel containing a set of paging messages and a next page pointer. The next page pointer identifies when the next set of paging packet message will be transmitted. A user station monitoring the paging channel receives the next page pointer, and, if not being paged, goes to sleep until the next paging packet message is due. When paging traffic is light, paging messages are sent infrequently, freeing up base station resources and allowing the user station to remain asleep longer. When paging traffic is heavy, paging messages are sent more frequently, ensuring rapid response to the pages and reducing the probability of a missed call. The protocol is particularly well suited for use in TDMA environments. (Abstract)

The examiner notes that Mansfield does not fully tie together the concept of modifying/adjusting the slot cycle based on traffic interference/congestion. Both Sonti and Phillips teach arranging access/paging based on network contention:

i) Sonti teaches :

The deployment of third generation communications systems will result in an increase in the number of services that can be provided to cellular subscribers. The list of services includes, but is not limited to, voice, packet data, short message service, short data burst, and location management (registration). As traffic on communication networks increases, mobile stations using these services are forced to compete for resources

including both the contention-based Access Channels and scheduled Paging Channels

ii) Phillips teaches:

ADVANTAGE - The system dynamically allocates the common resources, and in doing so, reduces the system latency to a bare minimum. It also schedules pages and messages to optimize the system. (Also see figures 6-7).

It would have been obvious to one skilled in the art at the time of the invention to modify Kinnavy, such that a traffic monitor capable of monitoring message traffic levels handled by said base station AND the controller capable of receiving traffic statistics information from said traffic monitor and determining whether use of said reduced slot cycle mode by said mobile stations communicating with said base station interferes with scheduling of paging message transmissions by said base station, to provide means for setting the slot cycle based on the traffic/congestion of the paging channel/traffic.

As per **claims 3-4, 11-12 and 19-20**, the combo teaches Claim 2/10/18 **but is silent on** wherein said first control message is transmitted in an overhead channel AND/OR wherein said first control message is transmitted in a traffic channel.

The examiner takes Official Notice that messages between the network and mobile must inherently be sent either on the control channel or traffic channel.

It would have been obvious to one skilled in the art at the time of the invention to modify the combo, such that said first control message is transmitted in an overhead channel AND/OR wherein said first control message is transmitted in a traffic channel, to provide means for sending the message via either the Control or Traffic channel, as is well known.

Allowable Subject Matter

Claims 2, 5-9, 10, 13-16, 18, 21-22 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not disclose, either alone or in combination, the highly detailed designs found in these claims:

Claims 2, 10 and 18: “wherein said reduced slot cycle controller, in response to a determination that said use of the reduced slot cycle mode by said mobile stations does interfere with said scheduling of paging message transmissions by said base station, causes said base station to transmit a first control message indicating that the reduced slot cycle mode is disabled in said base station..”

Claims 5, 13, 21 and 24: “wherein said first control message causes a selected target mobile station already operating in the reduced slot cycle mode to switch to operating in the full slot cycle mode...”

Claims 6, 14 and 22: “wherein said first control message causes new mobile stations accessing said base station to operate only in the full slot cycle mode...”

Claims 7 and 15: “wherein said reduced slot cycle controller is further capable of causing said base station to transmit a second control message to a selected target mobile station operating in the full slot cycle mode, said second control message causing said selected target mobile station to switch to operating in the reduced slot cycle mode...”

Claims 8 and 16: “wherein said reduced slot cycle controller causes said base station to transmit said second control message based on a quality of service level associated with said selected target mobile station...”

Claim 24: “wherein said first control message causes said mobile station to switch from operating in the reduced slot cycle mode to operating in the full slot cycle mode..”

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

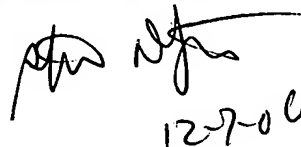
1. Harris et al. US 2002/0191583
2. Levine et al. US 5,276,911
3. Robbins et al. US 5,544,223
4. Mansour US 2005/0085253
5. Kelly et al. US 2005/0009548
6. Shi US 6,289,227
7. Yu et al. US 6,735,454
8. Kelly et al US 6,822,973

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

STEVE M. D'AGOSTA
PRIMARY EXAMINER



12-7-06